Table of Abbreviations

ADA	Americans with Disabilities Act
CCC	Civilian Conservation Corps
DHHS	North Carolina Department of Health and Human Services
DNP	Dedicated Nature Preserve
EEC	Environmental Education Center
FIIP	Facility Inventory and Inspection Program
GMP	General Management Plan
HQW	High Quality Waters
ITRE	Institution for Transportation Research & Education
LEED	Leadership in Energy and Environmental Design
LIDAR	Light Detection and Ranging
DENR	North Carolina Department of Environment and Natural Resources
NC DPR	North Carolina Division of Parks and Recreation
NC DOT	North Carolina Department of Transportation
NC DWQ	North Carolina Division of Water Quality
NC NHP	North Carolina Natural Heritage Program
NWI	National Wetland Inventory
ORW	Outstanding Resource Waters
PEP	Project Evaluation Program
USGBC	US Green Building Council
WRC	North Carolina Wildlife Resources Commission
WS	Water Supply watershed

Executive Summary

South Mountains State Park is a unique and special place with a rich history. The park is located in the South Mountains Range, situated in the Piedmont Province near the foothills of the Blue Ridge Mountains. The park lies entirely within Burke County, south of the city of Morganton, and is adjacent to Cleveland and Rutherford counties. Recent acquisitions in the western area of the park, now known as the Clear Creek section, have increased the park's size to 17,481 acres, making South Mountains State Park the largest park in the state parks system.

The park's primary interpretive theme is the ecology of its outstanding resource waters. Secondary interpretive themes include plant communities, stream recreation, local cultural history, rare and endangered species, conservation ethic, park system history, reptiles, camping and back country safety, horseback riding, changing land-use patterns, and geology. A thorough site inventory and analysis was performed as a component of this planning process. Through this process, the project consultant and other stakeholders in the park gained a better understanding of the opportunities and constraints within the park and how these might influence site planning and development of new and improved facilities that will support the current interpretive themes.

The park has historically been focused on providing opportunities for backcountry experiences to the general public. The master plan for South Mountains State Park maintains this as a focus for the park. It provides for further conservation and protection of the park's unique lands and natural resources while establishing a blueprint for long-term development of facilities, recreation, and environmental education opportunities. In recognition of the sensitive natural resources and challenging topography, most of the park will remain natural and undeveloped.

The master plan outlines specific project opportunities within the three designated park sections: Jacob Fork, Henry Fork, and Clear Creek. The plan for the Jacob Fork section includes circulation and access elements, expanded tent and trailer camping, shower house facilities, picnic expansion, equestrian improvements, and improved facilities for maintenance and operations functions, among others.

The additional land acquired for South Mountains State Park within the Clear Creek section creates an opportunity to access the western part of the park. Based upon a joint agreement between the North Carolina Department of Environment and Natural Resources and the North Carolina Department of Health and Human Services, the master plan outlines a proposal for an environmental education center in this section that focuses on serving people of all abilities, with special attention to universal design for populations with special needs. Group overnight facilities will enhance the environmental education experience. In addition, the plan incorporates a day-use area including picnicking, pier, boat house, and walking trail around the existing lake.

Though planning is a dynamic process, the availability of more detailed information over time may result in a final built product that is different than that depicted in this plan. This plan presents a balanced approach for a clear development plan and guide for future activities and recreational opportunities while meeting the mission of the state parks system to conserve and protect the park's significant resources and provide for environmental education opportunities about the natural heritage of this park.

Summary of Master Planning Process

Master Planning Process

The purpose of a master plan is to serve as a guide for development of park resources. It includes an analysis of cultural, scenic, recreational, geologic, and natural resources as well as site analysis and development recommendations. It also considers public demand.

State Parks System Mission Statement

The North Carolina State Parks system exists for the enjoyment, education, health and inspiration of all our citizens and visitors. The mission of the state parks system is to conserve and protect representative examples of the natural beauty, ecological features and recreation resources of statewide significance; to provide outdoor recreation opportunities in a safe and healthy environment; and to provide environmental educational opportunities that promote stewardship of the state's natural heritage.

The state parks system tries to update each park's master plan as needed. The first master plan for South Mountains was prepared in 1979 when the park was 5,779 acres. At that time, the park encompassed the upper watershed of Jacob Fork. Subsequent acquisitions have protected the upper reaches of the Henry Fork and Clear Creek watersheds, and have resulted in a park of 17,481 acres*. The western extent of the Clear Creek watershed brings the park boundaries near US Highway 64, offering the potential to open another gateway to North Carolina's largest state park with new types of facilities.

In 2003, a 454-acre tract of land was transferred from the NC Department of Health and Human Services (DHHS) to the NC Department of Environment and Natural Resources (DENR) for inclusion as a part of South Mountains State Park. Through this land transfer, the two named parties made a joint commitment to create a residential environmental education center, to serve all citizens, that will offer state-of-the-art accessibility features for special needs groups (See Appendix A).

The NC Division of Parks and Recreation (NC DPR) has revised the master plan for South Mountains State Park. For any state park, careful planning is crucial to balancing recreational demands with protection of the state's valuable natural resources. In essence, the master plan is a strategy for long-term development of facilities and recreation opportunities, and for protection of a park's natural resources.

The landscape architecture firm Swanson and Associates, P.A. of Carrboro served as the design consultant for preparation of the master plan. A part of the consultant's mission was to examine the park as a whole and evaluate opportunities and constraints for new facilities, with particular attention to be given to the Clear Creek section. Swanson and Associates, P.A. explored ways the Clear Creek section could complement existing facilities in the Jacob Fork (eastern) section of the park.

The consultant performed a thorough site inventory and analysis in order to fully understand the opportunities and constraints offered by South Mountains State Park. The consultant also analyzed usage trends for the park based on use logs kept by park staff. The *North Carolina Outdoor Recreation Plan 2003-2008*, was also reviewed. This plan for North Carolina prioritizes future public outdoor recreation needs in North Carolina (see Table 1) based on input from public meetings, outreach efforts and a statewide issues survey. Current uses of the park with the highest priority ranking (*rankings from 1 - highest to 9 - lowest*) combined for future demand and support for public funding include walking for pleasure, camping (tent or vehicle), picnicking, freshwater fishing, attending outdoor cultural events, visiting natural areas, bicycling for pleasure, viewing scenery, trail hiking, and use of open areas. Other park uses that fall within a lower priority ranking include primitive camping, horseback riding, and nature study.

Concurrently, the consultant worked closely with the NC Division of Parks and Recreation design and development, resource management, and trails program teams, as well as the park's superintendent and staff, to refine a program of use for the park.

*As of July 1, 2007.

Table 1: Excerpt from Priorities for Public Outdoor Recreation Funding

Activity	Future Demand	Support for Public Funding	Combined Ranking
Walking for pleasure	High	High	1
Camping, tent or vehicle	High	High	1
Picnicking	High	High	1
Beach activities	High	High	1
Fishing - freshwater	High	High	1
Attend outdoor cultural events	High	High	1
Visiting natural areas	Moderate	High	2
Use of play equipment	Moderate	High	2
Visiting zoos	Moderate	High	2
Visiting historical sites	Moderate	High	2
Bicycling for pleasure	High	Moderate	3
Swimming in pools	High	Moderate	3
Viewing scenery	Moderate	Moderate	4
Hunting	Moderate	Moderate	4
Trail hiking	Moderate	Moderate	4
Use of open areas	Moderate	Moderate	4
Target shooting	Moderate	Moderate	4
Swimming (Lakes, Rivers, Ocean)	Moderate	Moderate	4
Fishing - saltwater	Moderate	Moderate	4
Camping, primitive	Low	Moderate	7
Driving for pleasure	Moderate	Low	8
Horseback riding	Moderate	Low	8
Golf	Moderate	Low	8
Attending sports events	Moderate	Low	8
Jogging or running	Low	Low	9
Nature study	Low	Low	9
Softball and baseball	Low	Low	9
Basketball	Low	Low	9
Football	Low	Low	9
Soccer	Low	Low	9
Tennis, volleyball	Low	Low	9
Skateboarding	Low	Low	9
Sailboarding	Low	Low	9
Windsurfing	Low	Low	9
Canoeing and kayaking	Low	Low	9
Power boating	Low	Low	9
Water skiing	Low	Low	9
Downhill skiing	Low	Low	9
Cross country skiing	Low	Low	9
Other winter sports	Low	Low	9
Use of motorcycles, dirt bikes, ATV	Low	Low	9
Use of four-wheel-drive vehicles	Low	Low	9

from: *NC Outdoor Recreation Plan 2003-2008*

The master plan was developed in response to this program of use and the park opportunities and constraints.

The master plan is based upon the best mapping data available at the time of its preparation (See Resources and References: Digital Mapping Data). This data is not survey quality; therefore, more detailed soil, geotechnology, topographic, floodplain, wetland, ecological and other studies may be warranted in future phases of design in order to fully assess feasibility. Since planning is a dynamic process, the availability of more detailed information over time may result in a final built product that is different than that depicted in this plan.

Community Input Process

The public in general, as well as the park's neighbors, local governments, and other agencies, were invited to participate in a public meeting on May 17, 2007. The meeting took place at the Burke County Services Building, 110 N. Green Street, Entrance E, Commissioners Board Room, Morganton, NC, from 7 p.m. to 9 p.m.

The meeting was attended by approximately 100 people, including 17 NC Division of Parks and Recreation staff and three staff from Swanson and Associates, P.A.

The meeting included a presentation of the proposed improvements, maps and renderings of the park, and staff and design consultants were available to answer questions. Comments about the plan were accepted at the meeting and afterward by letter, e-mail, telephone and numerous individual conversations. A summary of all comments received is appended to this document (see Appendix B).

Additionally, several other agencies were solicited for input on this plan, including but not limited to the NC Department of Health and Human Services, the NC State Clearinghouse, and the US Fish and Wildlife Service. All input from these organizations, as well as that received during the public review process, was thoroughly evaluated and considered through this master plan process.

South Mountains State Park Master Plan Public Meeting, May 2007

Resulting Capital Projects

Any proposed capital project in the state parks system is individually scored and assigned priority by the park before being combined with projects for other state parks. The priorities are periodically re-evaluated. This will be the case for new infrastructure (roads, utilities, etc.), facilities, or trails at South Mountains State Park. The time frame for building new facilities will depend on how each new project is evaluated in relation to others in the state.

Generally, funding for park development comes from the Parks and Recreation Trust Fund, created in 1994 and supported by a portion of the state's tax on real estate deed transfers. The Parks and Recreation Authority, an appointed body, allocates money for capital projects and land acquisition after considering recommendations from the state parks system staff.

Property Acquisitions

Land acquisition objectives for South Mountains State Park include protecting water quality and natural resources, buffering these resources and visitor activities, protecting scenic views, providing land for park facilities and recreational opportunities, and improving park operations. Properties that contain or buffer rare species, natural communities, high water quality, and natural features are given the highest priority. Protecting the Outstanding Resource Waters in the Jacob Fork, Henry Fork, and Clear Creek watersheds is especially important at South Mountains State Park. Data and surveys from the NC Division of Parks and Recreation, NC Natural Heritage Program, and NC Division of Water Quality have been used to identify properties in need of protection. Where land suitable for facility development is not currently available, the master plan includes alternates dependent on additional property.

The master plan recommends acquisition of approximately 3,380 acres, bringing the total planned size of the park to 20,861 acres. The NC Division of Parks and Recreation works in conjunction with the State Property Office to acquire property from willing sellers. Each transaction with a landowner is unique and includes an independent appraisal and approval by the Joint Legislative Committee on Governmental Operations and Council of State. Funding for land acquisition generally comes from the Parks and Recreation, Natural Heritage, and/or Clean Water Management trust funds. The Parks and Recreation Trust Fund is described in more detail in the State Parks Act included in Appendix C.

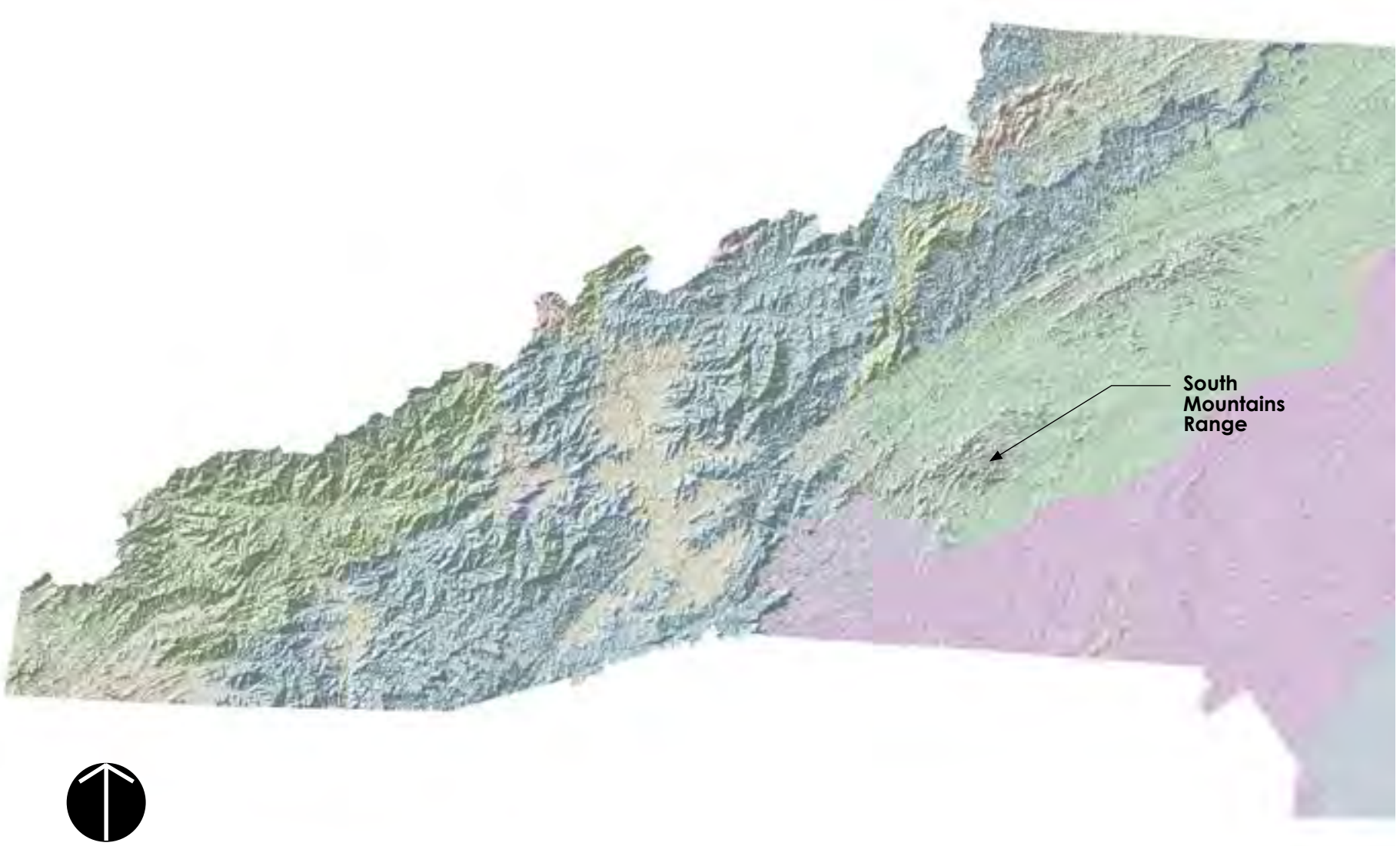

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Figure 1: Physiographic Map of Western North Carolina

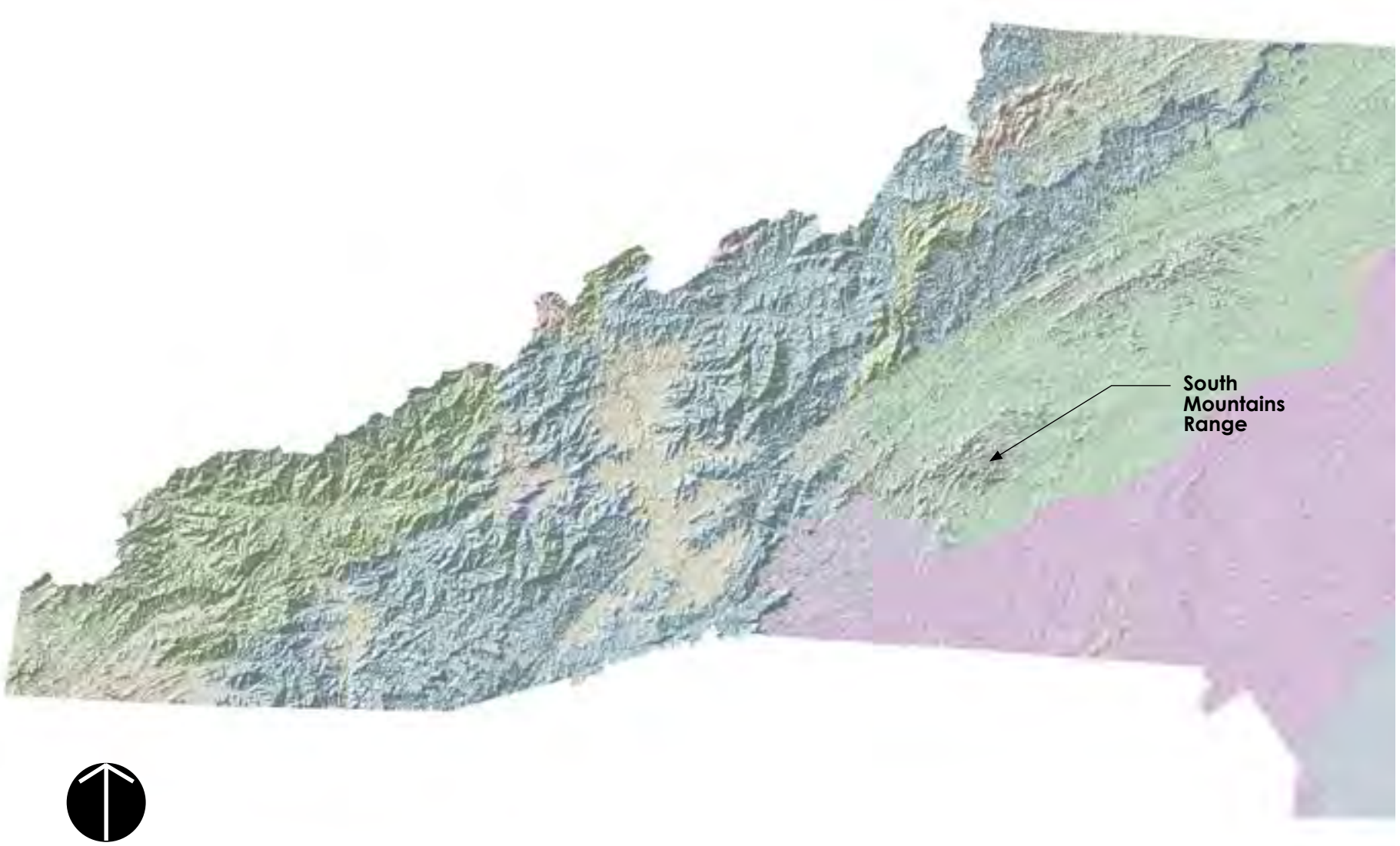

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Figure 1: Physiographic Map of Western North Carolina

Site Context and History

Site Description

The South Mountains Range, carved out of the Blue Ridge by erosion, covers approximately 100,000 acres in the Piedmont Province of North Carolina. This range is easily identified on the physiographic map shown in Figure 1. The range is characterized by prominent ridges, knobs, and valleys with steep side slopes. It is situated at the convergence of Burke, Cleveland, and Rutherford counties.

South Mountains State Park encompasses almost 18,000 acres of the South Mountains Range and is located along the southwestern boundary of Burke County. Its context within the state and its region are indicated in Figures 2 and 3. The park borders Rutherford and Cleveland counties to its south. Morganton, the county seat of Burke County, is located approximately 18 miles north of the Jacob Fork section of the park.

South Mountains State Park contains a portion of one of the largest remaining continuously-forested areas in the North Carolina Piedmont. It is also known for its many miles of Outstanding Resource Water streams and Trout Waters. Drainage of the park occurs through three primary watersheds. These watersheds are named Jacob Fork, Henry Fork, and Clear Creek. The watershed names are used within this document to define very distinct sections of the park.

Though a significant portion of the park was logged in the late nineteenth and early twentieth centuries (*Idol, 1999*), it contains a number of examples of ecological communities that are typically found in the Blue Ridge and are rather uncommon in the Piedmont. The predominant natural vegetation in the park is deciduous hardwoods including oak, hickory, and formerly chestnut, mixed with pine, with an understory of rhododendron, laurel, and holly.

Cultural Resources

Past development within the park has been minimal. Much of its history revolves around the several reservoirs that are still in existence today, though no longer functioning as water supply reservoirs. These reservoirs are now known as the Clear Creek Reservoir, the Henry Fork Reservoir, and the Bailey Fork Reservoir.

Fall foliage at South Mountains State Park

View from Chestnut Knob

Past development in the park, other than the reservoirs, has included several old homesteads, cemeteries, and schools. The Office of State Archaeology lists several sites that have been identified within the park boundaries. These include six family cemetery sites and seven other historic sites, including four homesites, identified based on the presence of remains of structures and various

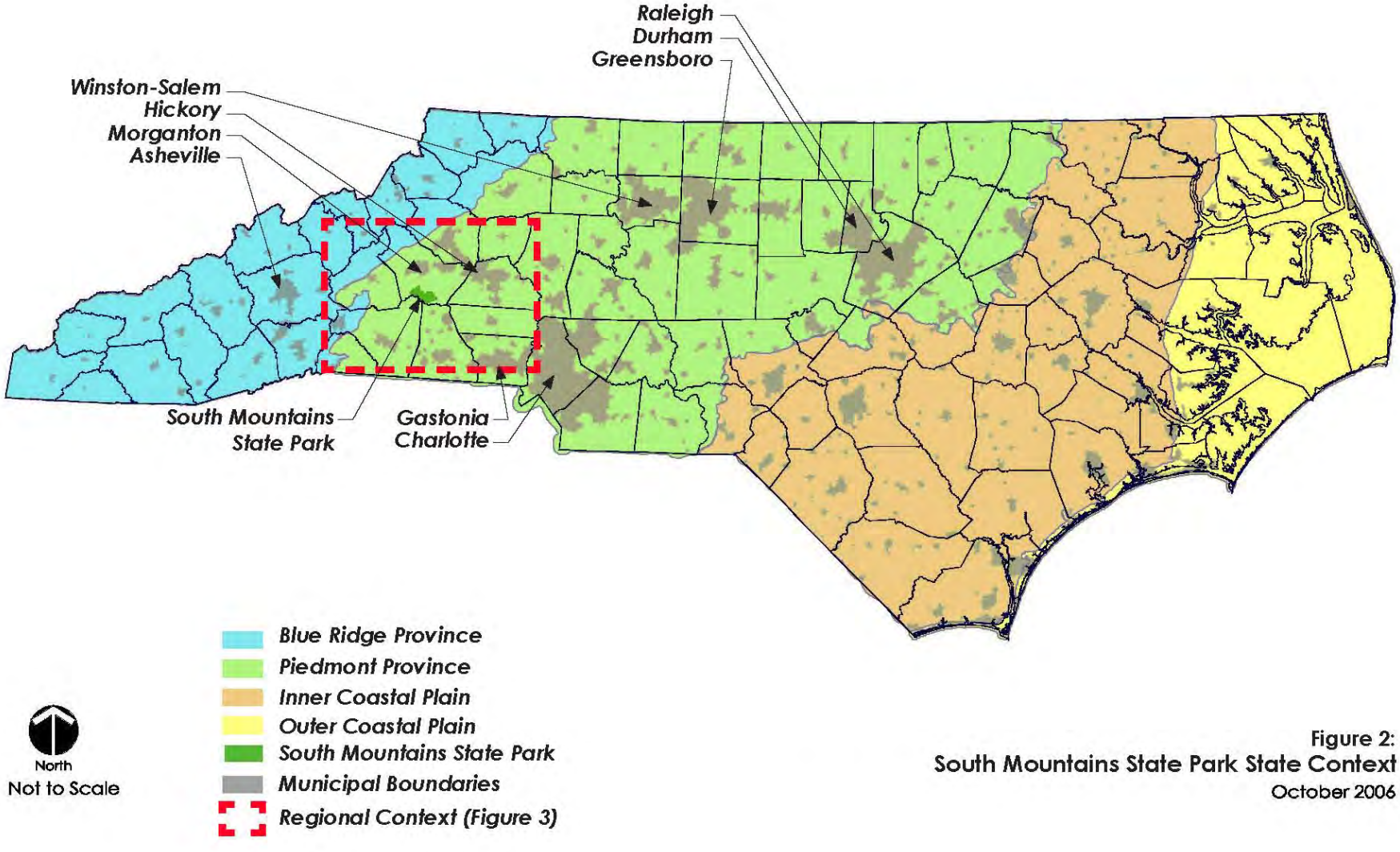


Figure 2:
South Mountains State Park State Context
October 2006

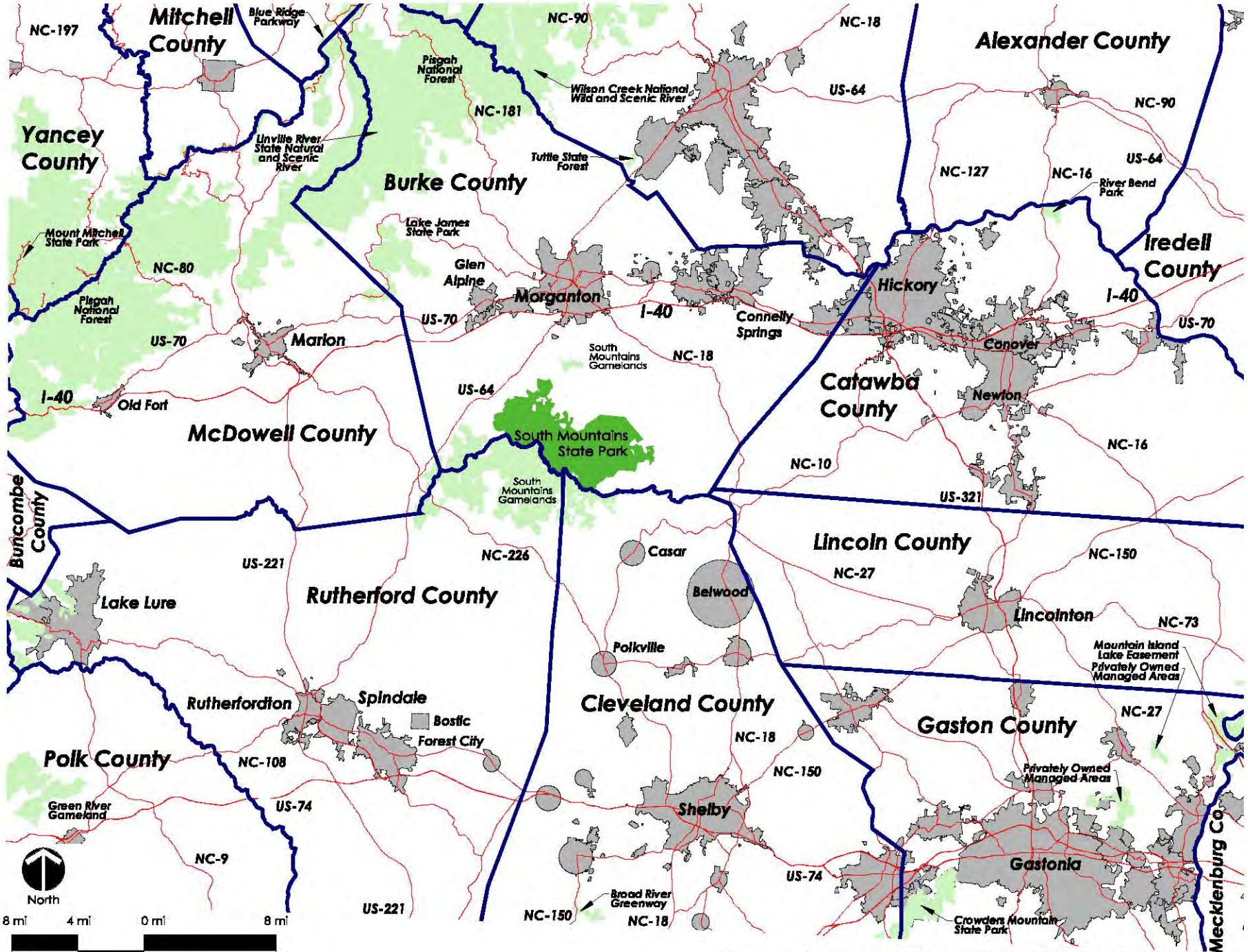


Figure 3: South Mountains State Park Regional Context

other artifacts, a home or school site, a wooden bridge, and a stone wall. In 1999, an archaeological study was performed for the NC Division of Parks and Recreation on these 13 sites by TRC Garrow Associates, Inc. All of these 13 sites are located within the Jacob Fork and Henry Fork sections of the park. Documentary and archaeological evidence indicates that all of these sites were abandoned in the late nineteenth or early twentieth centuries. No National Register of Historic Places recommendations were made for any of the sites. This master plan does not propose development in any of these locations; however, if any development is proposed in these areas in the future, further investigation may be warranted. Although cemeteries typically are not eligible for National Register of Historic Places status, all cemeteries are protected under North Carolina law, and no ground disturbing activity will occur in these sites (*Idol, 1999*).

In historic aerials from 1954 and 1967 (*NC State Archives, 1954 and 1967*), the park area in the vicinity of the Clear Creek Reservoir appeared to be heavily forested except for an area to the northwest of the reservoir dam, which appeared to be an open field, and an area of land near what is now known as Pealot Drive. This area appeared to be used for agricultural crops during that time period. Park staff refers to this area of the park as the Pealot, and confirms that Broughton Hospital used a portion of this area for agricultural purposes in the past. Distinct agricultural activity was also apparent to the northwest of the park in 1954 and 1967. There is an old log cabin, formerly used by the School for the Deaf, in the vicinity of the Bailey Fork Reservoir.

The large old willow oaks in the vicinity of the Clear Creek Reservoir dam were planted in the early 1950s by Mr. Henry Lyles, then lead maintenance supervisor for the reservoir, in charge of carpentry, shop and grounds. Park staff suspects the trees were planted mostly for aesthetics, and possibly to help dry up the area below the dam since willow oaks take up a lot of water.

A pre-1979 history description of the Jacob Fork section of the park has been excerpted from the 1979 Master Plan for South Mountains State Park and is provided in Appendix D.

More recent development in the park has been limited to the construction of park-related roads, trails, structures, and most recently a visitor center for the park in the Jacob Fork section. Most of the trails within the park have been located on historic logging or fire roads, as well as along roads developed by the Civilian Conservation Corps (CCC) in the 1930s.

Remains of a homestead chimney near Jacob Branch campsites.

School photo from one of several schools that were located within the park boundary. (School and year unkown)

Land Acquisition History

The South Mountains area was first recommended as a state park by a National Park Service study in 1940. A state park was established in 1974. At that time, the park consisted primarily of the Jacob Fork section. Conservation of the outstanding rivers, stream, and water quality of this watershed was one of the primary considerations for establishing the park and remains one of the primary interpretive themes of the park today.

The Henry Fork section of the park, a pristine watershed, was added to the property in several pieces, primarily between 1996 and 1999. This portion of the park contains the Henry Fork Reservoir, formerly the drinking water supply for the city of Morganton. During its days as a water supply watershed, this section of the park was patrolled by city staff to maintain its security as a drinking water source.

In 2000, 2,532 acres of the Clear Creek section of the park, locally known as the Broughton Watershed, and formerly the drinking water supply for Broughton Hospital, was transferred to the park from the NC Department of Agriculture. In 2003, the NC Department of Health and Human Services agreed to transfer 450 acres known as the School for the Deaf (Bailey Fork) Watershed to the park. This property is located in the northernmost portion of the park. Through the transfer of this latter tract of land, the NC Department of Environment and Natural Resources and NC Department of Health and Human Services entered into a joint agreement to create an environmental education center in the Clear Creek section of the park, intended to serve all citizens as well as including state-of-the-art accessibility features for special needs populations.

Existing Willow Oaks near Clear Creek Reservoir

Chimney remains in Henry Fork section

Cultural Context

Circulation/Accessing the Park

Figure 4 illustrates circulation patterns in and around the park. The current park entrance on its east side is located approximately 20.5 miles to the south of Interstate 40, Exit 105. This mileage is an estimate based on travel along the primary route to the park via NC Highway 18 and several secondary roads leading to South Mountain Park Avenue.

The west side of the park, near the Clear Creek Reservoir, can be accessed from Interstate 40 from the north via US Highway 64. The entrance to the parking area for the Clear Creek section is approximately 6.7 miles from Interstate 40, Exit 103. Currently access to the Clear Creek parking area from Highway 64 takes a circuitous route along Jenkins Road, Clark Loop, and Branstrom Orchard Street.

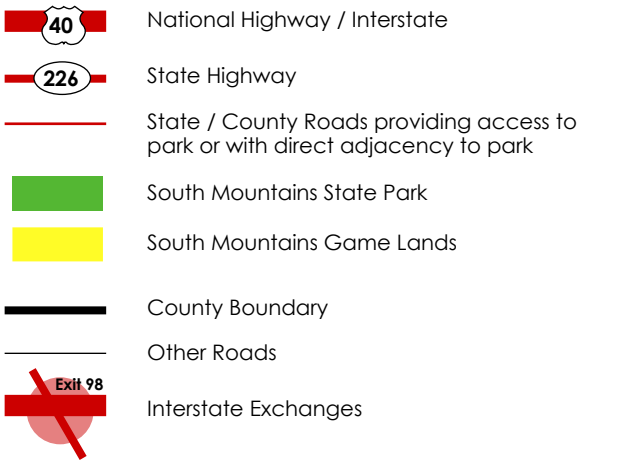
Scenic and Historic Road Systems

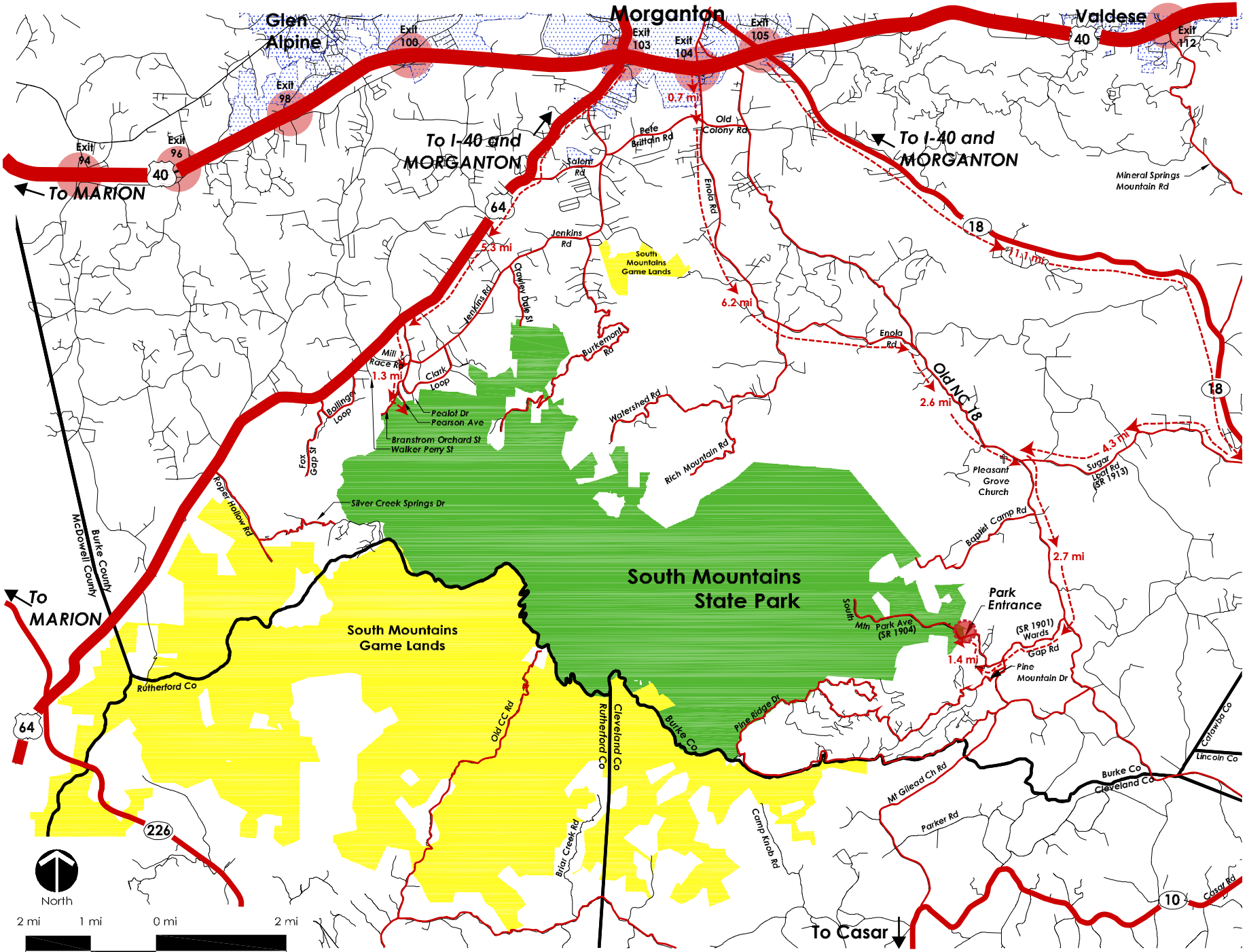
Two North Carolina scenic and historic road systems pass near the park boundaries. Highway 226 to the southwest of the park is designated a North Carolina Scenic Byway between Metcalf in Rutherford County and Marion in McDowell County.

Highway 64, to the northeast of the park, is part of the Overmountain Victory National Historic Trail, a commemorative motor route that covers approximately 220 miles from Abingdon, Virginia to Kings Mountain National Military Park in South Carolina.

Gravel drive access to Clear Creek section off of Branstrom Orchard Street

Map Legend





Scale : 1" = 2 miles

Figure 4: Circulation

Regional Planning

The *Greater Hickory Recreation/Tourism Plan* is a regional plan for the Greater Hickory Metro Area that includes Alexander, Burke, Caldwell, and Catawba counties. This plan's stated purpose is "to achieve the goal to develop a strategy, built upon community consensus, for repositioning the region's economy by leveraging the natural, cultural, and recreational resources for sustainable economic growth and prosperity." (*Western Piedmont Council of Governments and Unifour Recreation and Open Space Task Force, 2006*) South Mountains State Park is listed in this document as one of a number of "Public Recreation Key Lands and Facilities" in the area.

Regional Land Use

Properties within Burke County south of the Interstate 40 corridor, including South Mountains State Park, are predominantly zoned R-MU (Rural Mixed Use). According to the Burke County Zoning Ordinance (*Burke County Planning and Development, 2006*): "The rural mixed-use district allows a broad range of residential and commercial land uses with few restrictions." Figure 5 illustrates the zoning of the park and its nearby surroundings in Burke County as well as its proximity to the adjacent South Mountains Game Lands.

Residential use along Jenkins Road near entry to the Clear Creek section of the park

View of the South Mountains from Jenkins Road

Aerial photography (*2005*) and visual surveillance of the area in the vicinity of the park confirm primarily single-family residential and agricultural land uses, with limited commercial/industrial land use. Much of the land to the immediate south of the park in both Cleveland and Rutherford counties is owned and maintained by the NC Wildlife Resources Commission as the South Mountains Game Lands (19,781 acres).

Land within Cleveland County in proximity to the park is zoned 'Residential'. According to the Cleveland County Code of Ordinances regarding R-Residential zoning: "The purpose of this district is to accommodate low-density single-family detached dwellings, modular homes, manufactured homes at a maximum density of two (2) dwelling units per acre. Multi-family housing is also permitted in this district, but may be exempt from the density requirements depending on location."

Rutherford County in proximity to the park was not zoned at the time of creation of this document.

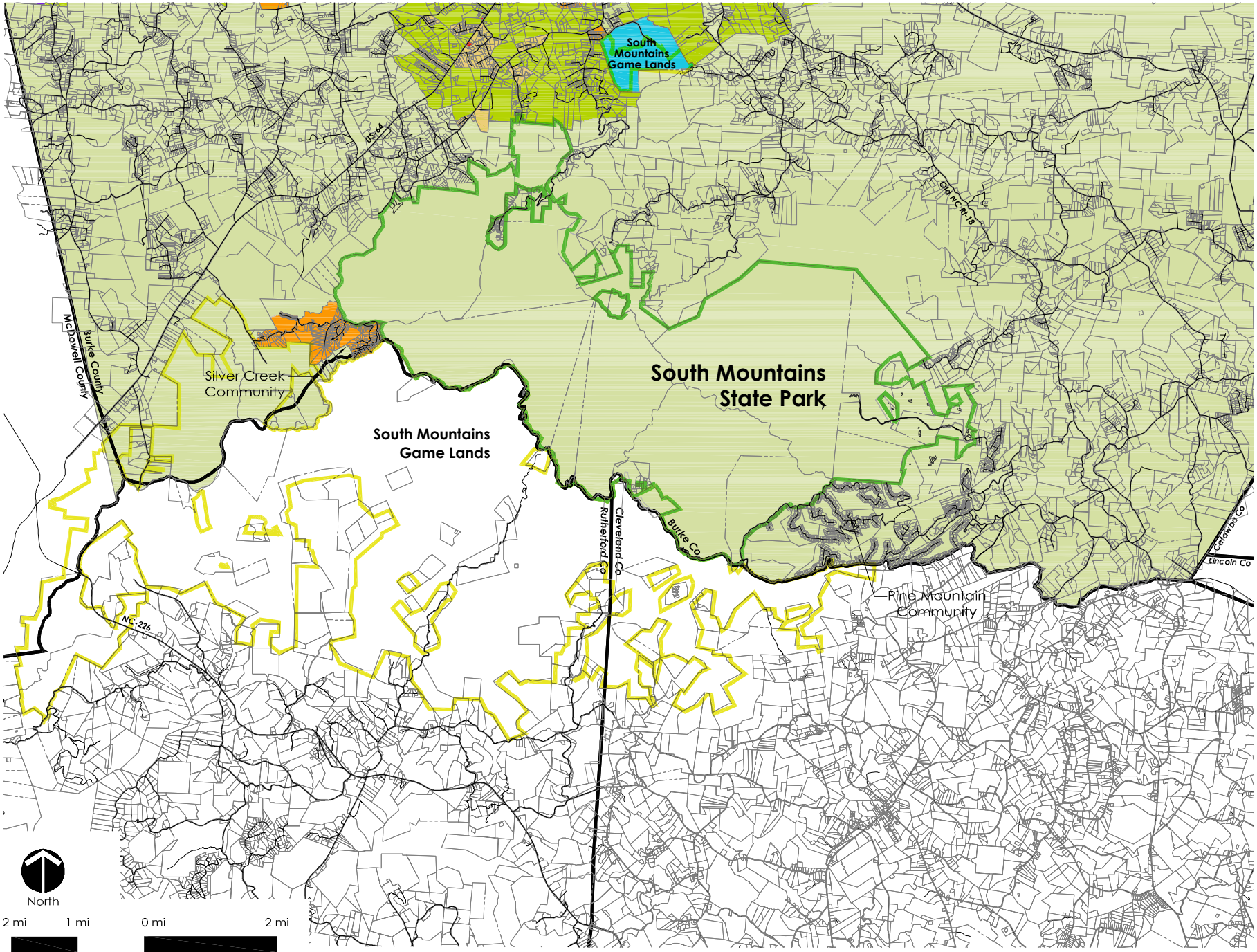


Figure 5: Area Zoning

Recreational Resources Inventory & Analysis

Summary of Activities and Park Visitation

Tables 2 and 3 define the regular activities taking place within the Jacob Fork section of the park. Annual use records, available from the park for 2000 through 2006, provide a summary of total visitors each month of the year for certain activities. Annual totals are represented here. Camping data is based on receipts. A traffic counter is located on the entrance road that records all vehicles entering and leaving the park. The multiplier of traffic counts for total attendance is based on an average of four people per car and is divided by two, to account for entrance and exit of one vehicle. Approximately 10% of visitors fish, 72% hike, and 41% picnic.

Overall park attendance, picnicking, hiking, and fishing increased by around 20% between 2000 and 2006. Primitive camping and backcountry camping combined have increased by more than 40%. Interpretive program participation decreased from 2001 to 2005 and then showed a strong increase of more than 40% from 2005 to 2006 due to an increase in numbers of programs.

Table 2: Annual State Park Use Record *(Jacob Fork Section only)*

Activity	Year of Record						
	2000	2001	2002	2003	2004*	2005	2006
	Total Vehicles Entering Park						
Total Attendance	159,580	186,242	167,509	183,792	49,194	192,440	205,814
	Total Individual Participants in Activity						
Fishing (trout fishing)	17,317	19,559	17,588	20,540	5,833	20,203	21,573
Hiking	114,897	134,095	120,607	132,329	35,419	138,554	147,777
Interpretive Programs	3,944	4,135	3,591	3,510	1,058	2,158	5,607
Picnicking	65,830	78,945	82,227	75,816	20,296	79,385	84,652
Horse Camping	--	171	480	939	118	708	1,236
Backcountry Camping	--	1,263	1,276	2,750	386	2,247	2,246
Primitive Camping	--	5,301	5,179	3,137	421	3,504	4,065

*Totals for 2004 were lower than preceding years due to a park closure due to a landslide event.

Day hiking

Monthly visitation, on average, was highest from April through July and lowest in December and January. The South Mountains State Park General Management Plan (*NC DEHNR*, *1993*) states an eight-month peak season for the park, from March through October. Totals for peak season months appears to have doubled since 1990, based on the visitation trends reported in the general management plan.

The park is well known for its equestrian facilities, including trails and campground. According to park staff, equestrian trail usage numbers have not been documented, and would be difficult to document since equestrians have historically accessed the park lands from other areas in addition to the main entry in the Jacob Fork section of the park. The most riding activity occurs in the spring and fall, though equestrians do ride year round if the weather is favorable.

Backpacking

Table 3: Other Activities in Jacob Fork Section

(not tracked in annual use records)

Backcountry Backpacking
Backcountry Camping
Day Visitation to View Waterfall
Equestrian Camping
Group Camping
Horseback Riding
Mountain Biking
Nature Photography
Self-Guided Nature Interpretation

Small waterfall in Jacob Fork Section

Typical primitive campsite, Jacob Fork Primitive Campground

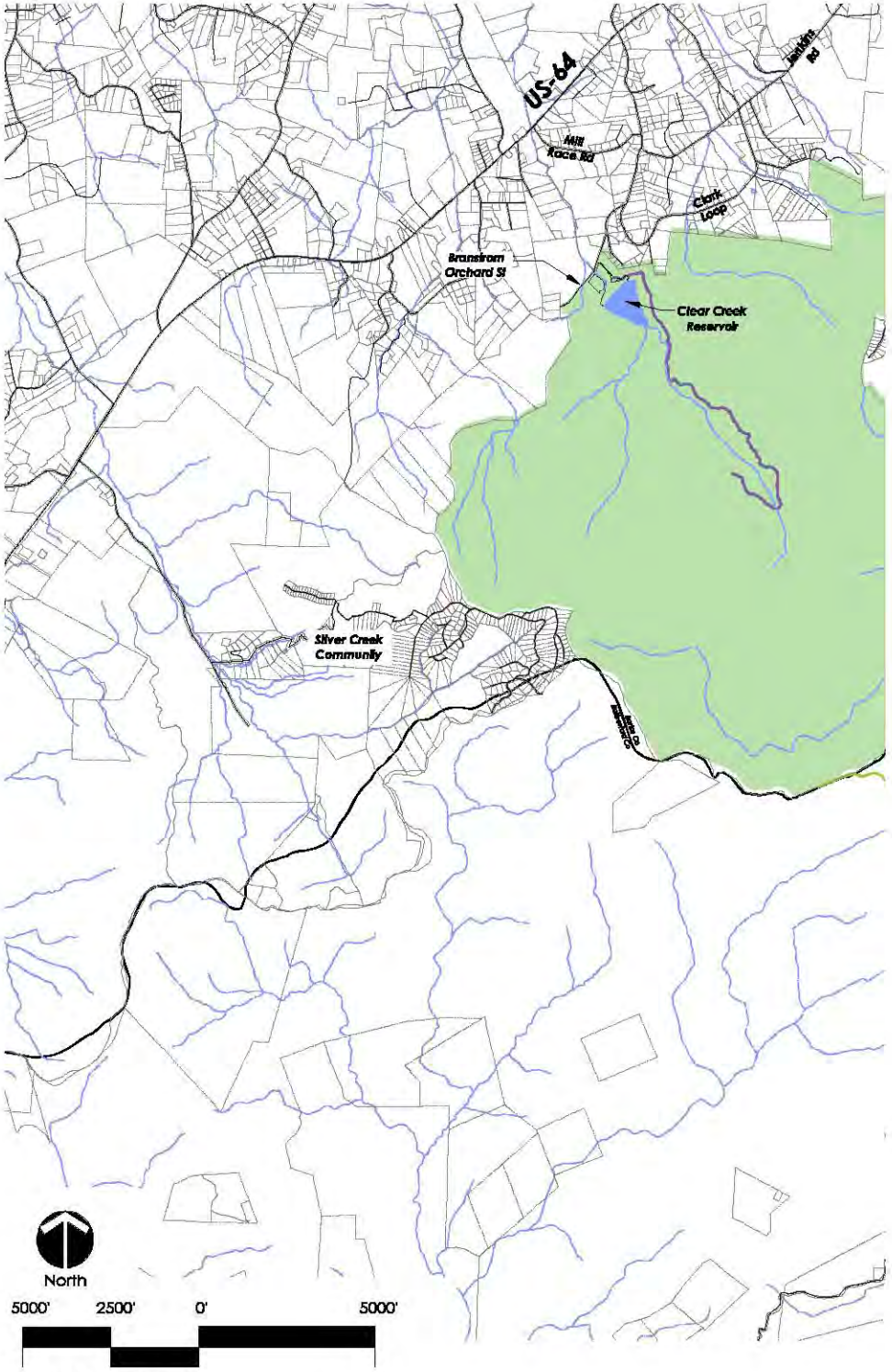
Map Legend

- South Mountains State Park
- County Boundary
- Roads
- Property Parcels
- Water Bodies

Accessible Trail | Biking Trail | Equestrian Trail | Hiking Trail | Parking | Primitive Camping

Trail Name	Miles	Hiking	Equestrian	Biking	Accessible
Benn Knob Trail	3.0	●	●	●	
Chestnut Knob Trail	2.1	●			
Dogwood Trail	2.6	●	●	●	
Fox Trail	3.6	●	●		
Headquarters Trail	4.3	●	●	●	
Hemlock Nature Trail	0.3	●			●
High Shoals Falls Loop	1.2	●			
Horseridge Trail	3.3	●	●		
Jacob Branch Trail	1.1	●			
Jacob Fork River Trail	0.5	●			
Little River Trail	2.0	●	●		
Lower CCC Trail/Road	2.5	●	●	●	
Possum Trail	1.5	●			
Raven Rock Trail	1.9	●	●		
Sawtooth Trail	2.5	●	●		
Shinny Trail	2.2	●			
Short Trail	0.7	●			
Turkey Ridge Trail	1.7	●	●		
Upper CCC Trail/Road	1.6	●	●		
Upper Falls Trail	1.8	●	●	●	

Trail Symbol	Hiking	Equestrian	Biking	Interim
	●			
	●	●		
	●	●	●	
	●		●	
				●



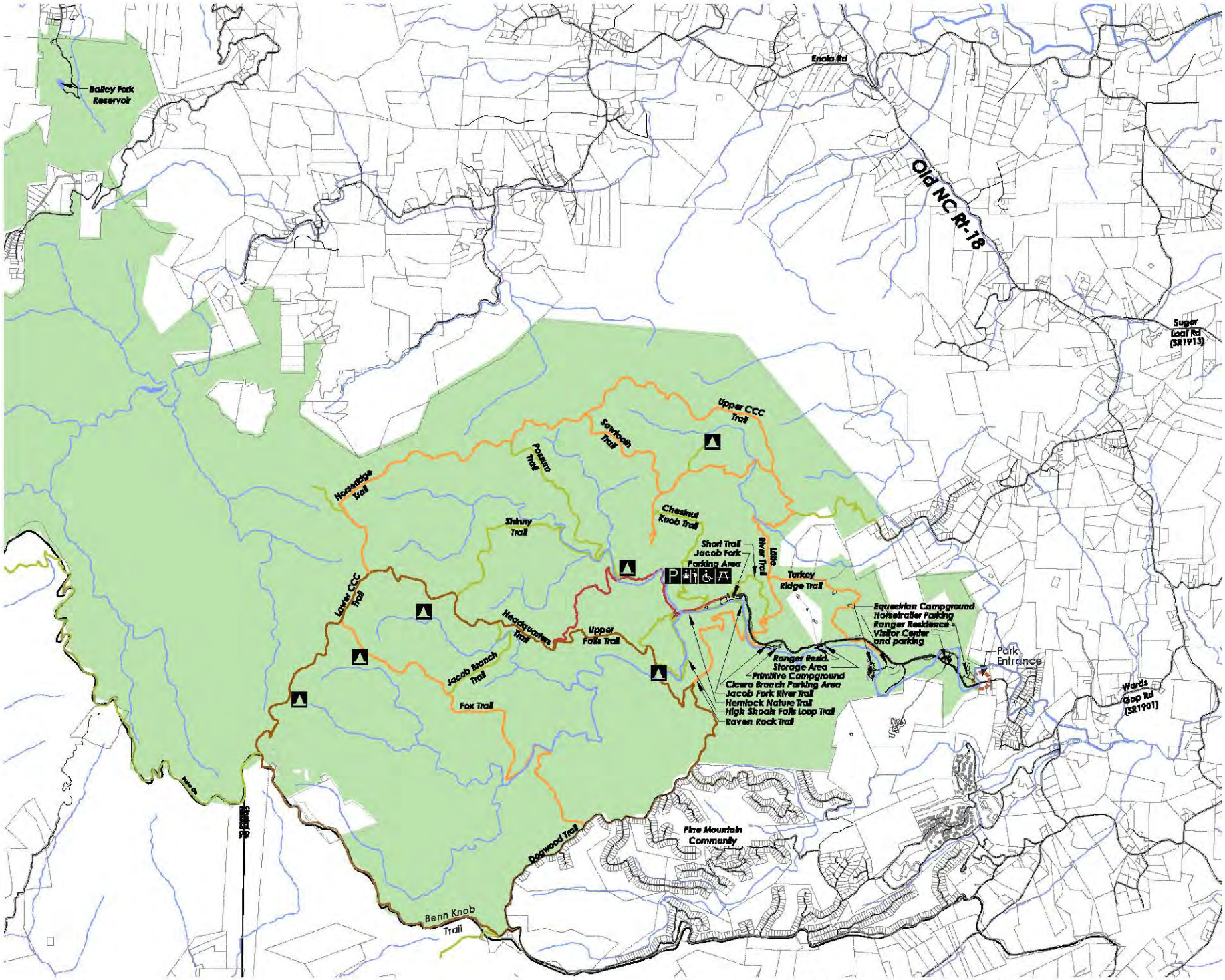


Figure 6: **Existing Uses and Internal Circulation**
October 2006

Existing Internal Circulation, Infrastructure and Activities within each Section of the Park

Figure 6 illustrates uses and internal circulation for the entire park. The following sections describe in more detail infrastructure, facilities, and circulation existing in South Mountains State Park at the time of development of this master plan.

Jacob Fork Section

Figure 7 illustrates the existing infrastructure, facilities, uses and circulation in the Jacob Fork section of the park in close proximity to South Mountain Park Avenue.

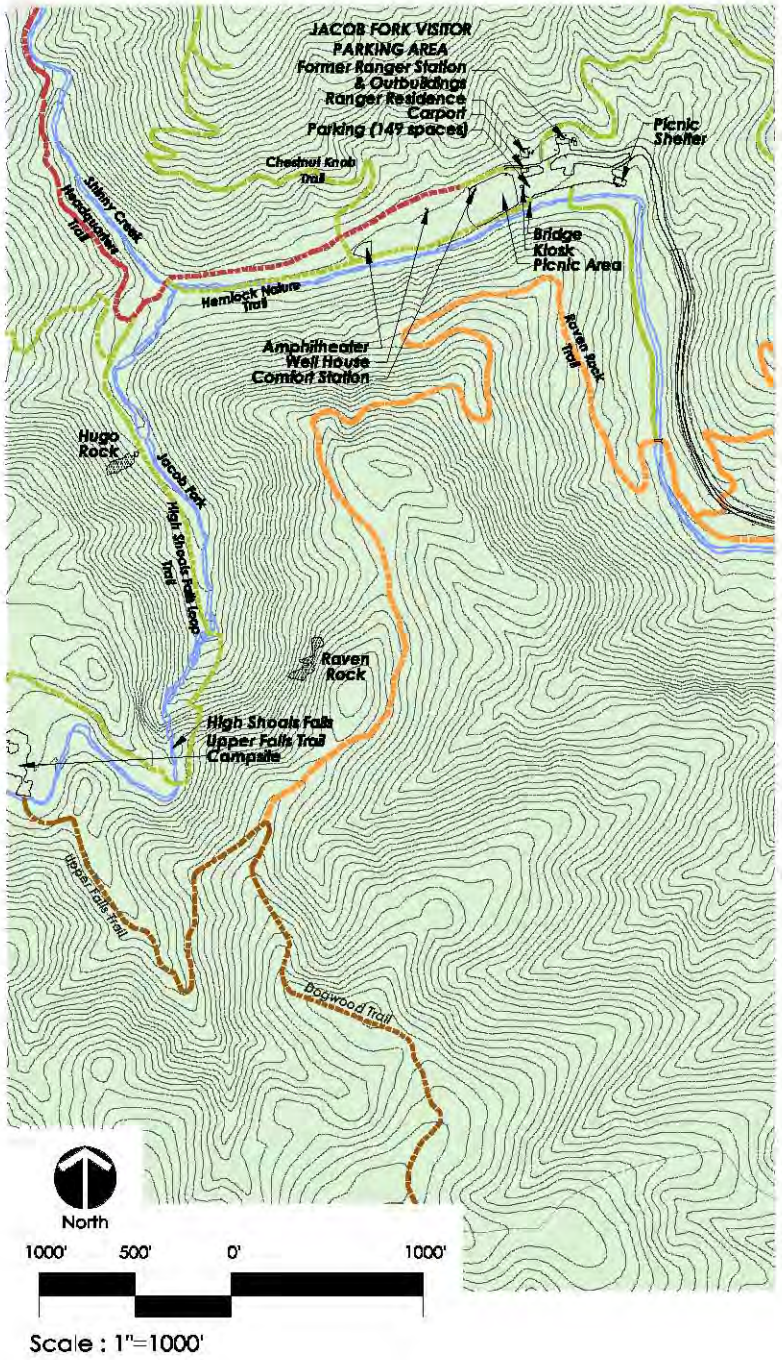
Access to the Jacob Fork section of the park is provided by South Mountain Park Avenue (SR 1904). This road provides the primary visitor vehicular circulation in the Jacob Fork section of the park. Other secondary circulation is provided through parking areas for the visitor center and Jacob Fork trailheads area as well as through the campgrounds.

Near the gated entry to the park, a driveway to the north provides access to a ranger residence. Three bridges provide access over Jacob Fork, with parking and a driveway for the South Mountains State Park Visitor Center on the north side of South Mountain Park Avenue between the last two bridges.

Farther west on South Mountain Park Avenue, on its south side, is an approximately 1½-acre horse-trailer parking area. The gravel lot is not striped, and a portion is used at times for gravel storage. An

Map Legend

Trail Symbol	Hiking	Equestrian	Biking
	●		
	●	●	
	●	●	●
	●		●



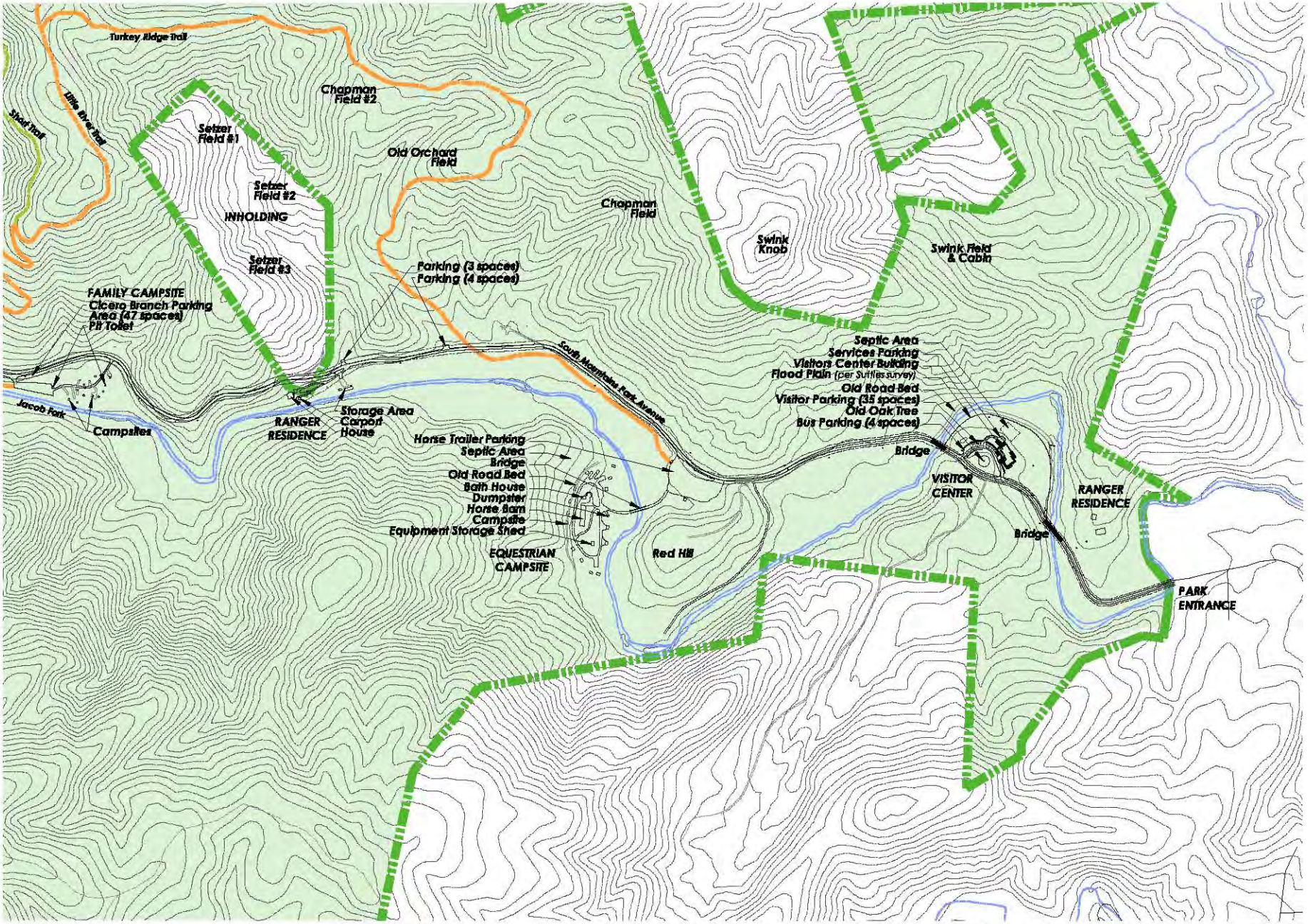


Figure 7: **South Mountains State Park Jacob Fork Section**
Detail - Existing Infrastructure, Uses and Internal Circulation
20' Contour Interval, January 2007

estimate of 'parking spaces' is not feasible. With the exclusion of outer edges of the space to allow for circulation, it is estimated that approximately three-quarters to one acre of land is available for parking. Park staff reports that this parking lot has held upwards of 35-40 trailer rigs. A small building containing two pit toilets flanks this parking area to the south. A bridge, leading to the equestrian campground, is located to the southwest of the parking area.

The equestrian campground consists of 15 campsites, a 33-stall barn, and a bathhouse with flush toilets and hot showers. Each campsite has a parking area, picnic table, tent pad, and grill. Potable water spigots are located throughout the campground.

Going west along South Mountain Park Avenue, a ranger residence and park storage area are adjacent to the road to the south.

Farther west on South Mountain Park Avenue, again on its south side, is the existing primitive campground. It consists of 11 campsites, each with a picnic table and grill. Two pit toilet facilities and drinking water are provided in this area. The Cicero Branch Parking Area connects to this campground to its west.

The Jacob Fork parking area is located at the end of South Mountain Park Avenue. This parking area is flanked by a picnic shelter, the former park office and interim maintenance facility, a ranger residence, and trail heads into the park.

The Jacob Fork picnic shelter contains 12 tables and four grills. It has electric service and is used by park staff to provide interpretive presentations to visiting groups.

A second picnic area is located just beyond a kiosk at the end of the parking lot between the Headquarters Trail and the Hemlock Nature Trail. This picnic area has 12 tables and nine grills. A restroom facility is located adjacent to the picnic area.

The Hemlock Nature Trail connects to Headquarters Trail about three-tenths of a mile from the Jacob Fork parking area. The Hemlock Nature Trail follows Jacob Fork with several overlooks for fishing and nature viewing. Several informational kiosks and display areas are provided for the visitor along this trail. A rustic amphitheater is located in this vicinity as well.

Hemlock Nature Trail, August 2006.

A third picnic area is located approximately one-half mile down the Headquarters Trail and consists of four tables and three grills.

Headquarters Trail connects to High Shoals Falls Loop which leads the visitor to one of the park's most visited attractions, High Shoals Falls. Access to the falls on one side of the loop is up numerous boardwalks and steps. The falls plummet 80 feet over bare rock, with several cascades below.

Many of the other park trails are accessed off of Headquarters Trail and High Shoals Falls Loop. Most of these trails were sited on old road beds. In total, seventeen trails encompass 42 total miles. All trails are open for hiking. Bridle trails total 29 miles. For mountain bikers, there is also a strenuous 18-mile loop trail.

Other park facilities include a total of 20 backpack camping sites in six locations in the Jacob Fork section of the park. Each location integrates a pit toilet nearby. Four camping sites are also provided for group camping off of Shinny Creek Trail.

Boardwalk to High Shoals Falls, August 2006.

Upper Falls Campsite, August 2006.

In summary, the primary activities occurring in the Jacob Fork section of the park include hiking, backpacking, picnicking, trout fishing, camping (including backcountry camping), horseback riding and equestrian camping, mountain biking, and natural heritage interpretation and nature appreciation.

Henry Fork Section

Currently, the Henry Fork watershed portion of the park has limited access to the public. There are some existing 'named' trails/ old roads within this area, predominantly representing old logging roads and surveillance roads for patrolling the area when the reservoir was utilized as the Morganton water supply. However, no trails are maintained for public use at this time.

No known buildings exist in this section of the park. There is an old reservoir that formerly served the city of Morganton, now known as the Henry Fork Reservoir. It is two to three acres in size and approximately 30 feet deep near the concrete dam. This reservoir is no longer in use as a water supply source.

Clear Creek Section

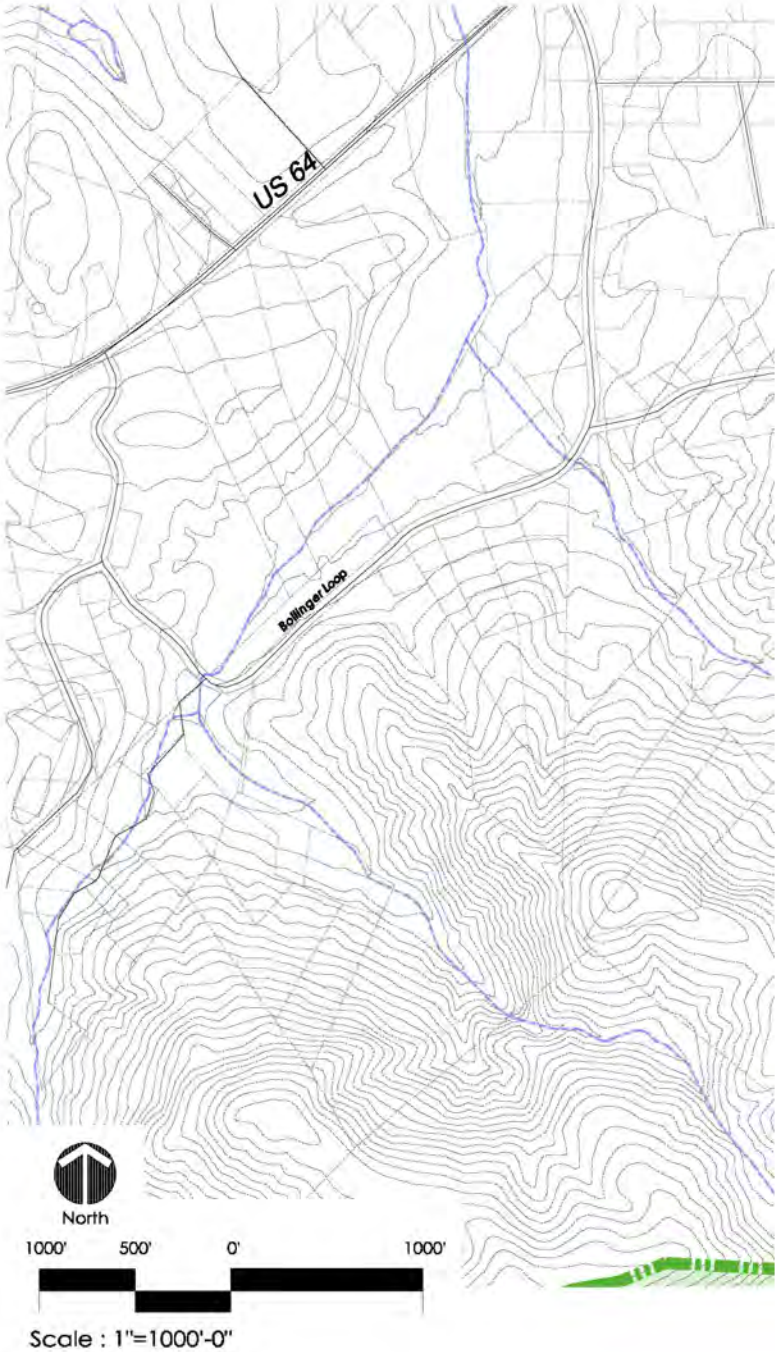
Figure 8 illustrates the existing infrastructure, facilities, uses, and circulation in the Clear Creek section of the park in close proximity to the Clear Creek Reservoir.

There are old roads and trails in this section of the park that have traditionally been used primarily by local residents for horseback riding and fishing access. The area currently is open as a day-use area only. It is served by a small gravel parking lot, with an approximate capacity for 10 to 14 cars. Fishing is allowed in this section per state regulations, and there is an interim 2½-mile trail that passes the reservoir and generally follows Clear Creek to a ridge.

There are two old reservoirs in this section of the park. The largest reservoir was formed by damming Clear Creek (Clear Creek Reservoir) and covers approximately 20+ acres. It was formerly the water supply source for Broughton Hospital. It is no longer in use as a water supply source. The spillway and intake tower were renovated in 2006 and 2007. There are several old buildings that were associated with the reservoir located in the vicinity of the dam.

The second reservoir in this section, Bailey Fork Reservoir, formerly supplied the School for the Deaf with drinking water. It was formed by damming Bailey Fork in the northernmost area of the park and is less than one acre in size. It also is no longer in use as a water supply source. An old, tree-damaged log cabin and associated outbuildings are situated near this reservoir.

Clear Creek Reservoir, July 2006



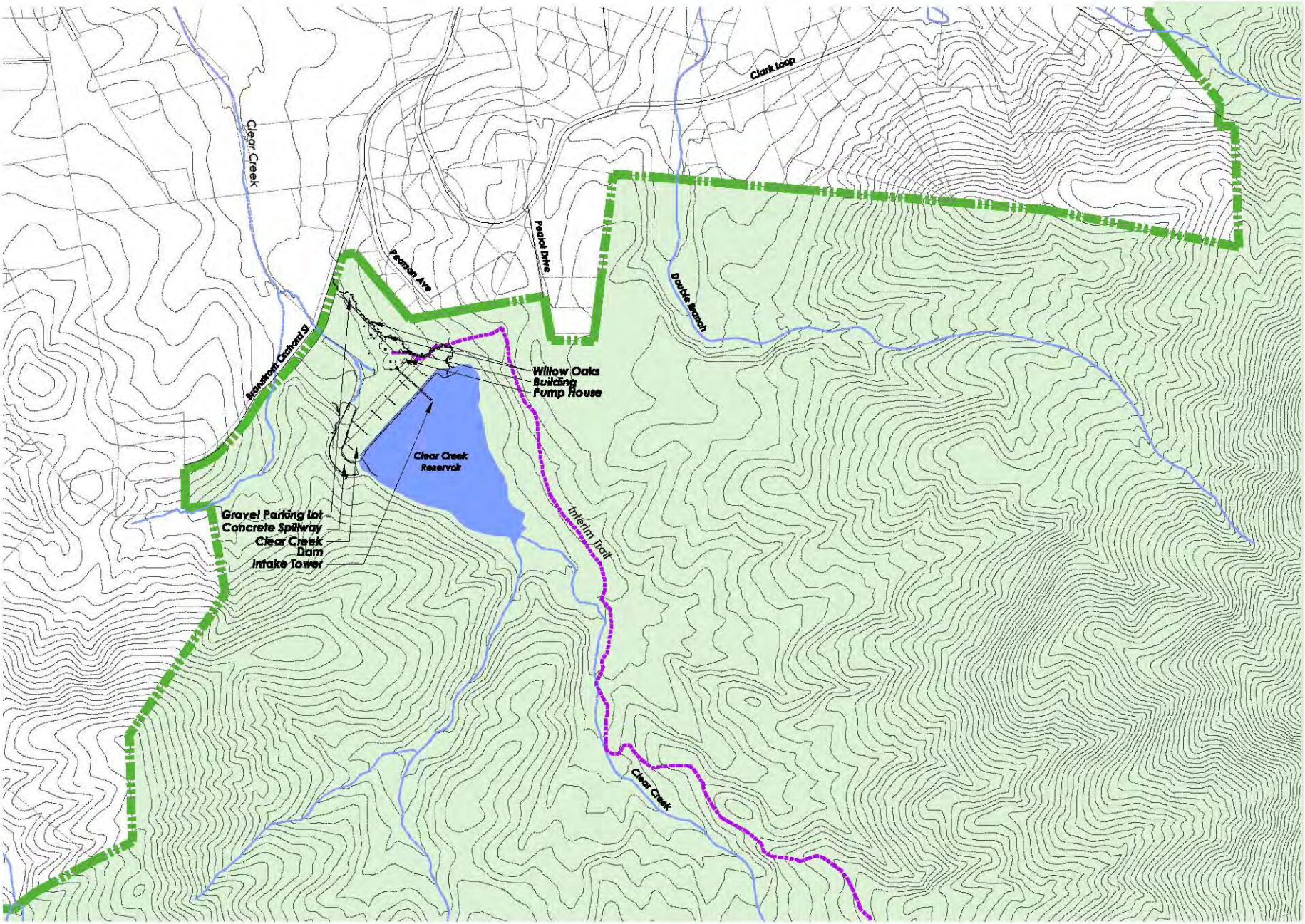


Figure 8: **South Mountains State Park Clear Creek Section**
Detail - Existing Infrastructure and Internal Circulation
20' Contour Interval, January 2007

Building and Structures Inventory

Introduction

Information for the building and structures inventory is based on the **Facility Inventory and Inspection Program** (FIIP)**: South Mountains State Park** performed by North Carolina State University (*1992*), and has been updated with several new buildings that have been constructed since that time. The buildings are listed with the inventory number and date of construction and approximate square footage and description. A more detailed evaluation of the older structures is provided in the original inventory document.

Most of the park's infrastructure was already in existence when the state acquired the original park land in 1975.

Existing Significant Buildings and Structures

(in Jacob Fork Section)

Visitor Center and Park Offices (no building inventory number available) (2006) 7,500 square feet, heated, wood structure used as main visitor center and offices for park personnel. Approximately 2,000 square feet of private/staff use and 5,500 square feet of public use. Condition - Excellent.

Ranger Residence (#31-001) (1945) 1,421 square feet. Heated wood frame building used as ranger residence located adjacent to the Jacob Fork parking area. Condition - Good.

Office and Interim Maintenance Facility (#31-002) (1945) 1,280 square feet. Heated wood frame building formerly used as park office and currently used as interim maintenance facility. Located adjacent to Jacob Fork parking area. Condition - Fair.

Picnic Area Toilet Building (#31-004) (1986) 532 square feet. Heated wood frame structure used as toilet building. Condition - Good.

Superintendent's Residence (#31-018) (1978) 3,530 square feet. Heated log structure on concrete masonry unit base. Located south of South Mountain Park Avenue approximately halfway between current park entrance and Jacob Fork parking area. Condition - Good.

Poteat Cabin (#31-021) (ca. 1980) 880 square feet. Heated wood frame structure, formerly used as a cabin. Located on the south side of the park just north of Benn Knob Trail. Limited access to the cabin. No electrical service. Condition - Fair.

Ranger Residence (#31-022) (ca. 1970) 1,497 square feet. Heated log structure that is used as a ranger residence. Located north of South Mountain Park Avenue, immediately northeast of the current park entrance. Purchased by the park in 1995. Condition - Good.

Garage (#31-023) (ca. 1970) 464 square feet. Unheated wood frame structure used for a garage at building #022. Condition - Fair.

Shed (31-024) (ca. 1970)
240 square feet. Unheated wood frame structure used for vehicle and equipment storage. Condition - Fair.

Storage Shed (31-026) (1994)
278 square feet. Unheated manufactured metal frame and siding building used for storage. Located adjacent to former Office and Shop building and the Jacob Fork parking area. Condition - Fair.

Picnic Shelter (031-027) (1999)
1,624 square feet. Unheated post and beam structure used as a picnic shelter. Located on the eastern end of the Jacob Fork parking area. Condition - Good.

Equestrian Campground Washhouse (031-028) (1999)
716 square feet. Heated wood structure on concrete slab used as a washhouse building. Adjacent to new horse barn. Condition - Good.

Horse Barn (031-029) (1999)
4,800 square feet. Unheated wood post and beam structure used as a horse barn. Condition - Good.

Roads and Utility Inventory

Introduction

Information for the roads and utility inventory was developed from the **South Mountains State Park General Management Plan** (GMP) (*NC DEHNR, 1993*). The GMP based its information on "an inspection of the park facilities in October 1992, as well as on original construction drawings, and information from NC Division of Parks and Recreation staff and the Institute for Transportation Research and Education's study on roads." Information on new facilities built or renovated since the GMP was published has been provided by park staff or delineated in the field.

Existing Roads

There are approximately $2^{2}/_{5}$ miles of paved roads along South Mountain Park Avenue. There are over 42 miles of unpaved roads/ trails in the park.

The main entrance road is a paved asphalt and macadam road approximately 18-20 feet wide, with varying shoulder widths.

Of the 30 miles of unpaved roads, $28^{7}/_{10}$ miles are single lane (eight to 11 feet wide) fire access roads and bridle trails. Most of these roads were in existence prior to acquisition of the land by the NC Division of Parks and Recreation, and some areas of these roads are heavily eroding due to steep slopes. The park staff has added numerous water bars and water trail ditches to help address this erosion, with some success. However, there are still areas where erosion has not been resolved. The park staff maintains these roads using park equipment.

Maintenance of South Mountain Park Avenue (SR 1904) from the superintendent's residence to the Jacob Fork parking lot is part of the State Parks Road System. There is a request in to the NC Department of Transportation (NC DOT) to abandon the rest of the road within park property behind the new park gate and turn it over to the State Parks Road System. At the time of printing of this document, this transfer had not yet taken place.

Water bar on High Shoals Fall Loop

Bridge along South Mountain Park Avenue

Currently, there are three new bridges along South Mountain Park Avenue which span Jacob Fork. These bridges are constructed to NC DOT standards and are two lanes with guard rails. Another one-lane vehicular bridge in the park connects the horsetrailer parking area to the existing equestrian campground.

Pipe culverts along the park roads are both concrete and corrugated metal, but the majority of the piping is metal. Most are in fair shape. Minor tail ditching is required on several culverts.

Existing Parking Areas

The new visitor center has 35 paved parking spaces for use by the public. This includes two accessible parking spaces. A lower park-

Horse trailer parking, January 2007

Jacob Fork Parking Area

ing lot provides five staff parking spaces. The main parking lot also has four bus parking spaces.

The paved parking lot at the day-use area (Jacob Fork parking area) has 149 designated parking spaces. There are four accessible spaces in this parking lot. This parking lot is in good condition and is striped with signage to mark the travel ways.

On busy weekends, the Jacob Fork parking lot is full. The park staff manages the parking in 44 additional spaces (including one accessible space) in the Cicero Branch parking lot located to the west of the existing primitive campground. This parking lot also serves as access for those fishing in Jacob Fork. Seven additional parking spaces exist off of South Mountain Park Avenue, one group of three and one group of four. These are primarily used by those fishing in Jacob Fork as well as for access to Turkey Ridge Trail.

Existing Sewer Systems

All sewer facilities at South Mountains State Park have septic tanks and separate drain fields. Descriptions of the systems follow:

Picnic Area Toilet Building (Building #031-004).
This system has a 2,000-gallon, pre-cast septic tank with a five-line distribution box. There are five 140-linear-foot nitrification lines. The nitrification field is located approximately 25 feet behind the toilet building in a wooded area. Picnic tables are located in the drainfield. A gravel interceptor drainage ditch above the drainfield catches surface water that runs across it. The septic tanks do not have risers.

Ranger Residence (Building #031-002).
The size and age of this system is unknown, but it is probably a 1,000-gallon tank with approximately three 100-foot drainfield lines. The tank does not have a riser.

Ranger Residence (Building #031-022).
The size and age of this system is unknown.

Superintendent's Residence (Building #031-018).
The size and age of this system is unknown, but it is likely a 1,000-gallon tank. This tank does have a riser.

Privies.
There are 12 privies at South Mountains State Park. Four of the privies are vault/pump-out and are located at the 11-site primitive campground and the horse trailer parking area. The remaining eight are pit privies and are located at the hike-in group and primitive campsites.

There are no public restrooms at the former office and maintenance area.

Visitor Center Sewer System.
The visitor center toilet facilities are served by approximately 900 linear feet of field line, a 3,000-gallon septic tank, and a 1200-gallon pump tank which doses approximately 250 gallons. The septic field is located to the northeast of the visitor center building.

Equestrian Campground Washhouse Sewer System (Building #031-028).
This septic system consists of six flush toilets, two urinals, and four shower stalls. The septic field is located to the north of the site. This is currently the only pumped system in the park.

Existing Water Systems

The seven water systems that serve the park are each supplied by potable wells with submersible pumps.

Picnic Toilet Building Water System (Building #031-004).
This system is served by a 302-foot deep, six-inch diameter well with a flow rate of 24 gallons per minute. The well is located about 200 feet north of the picnic toilet building. The pump control, storage tank, and chlorinator are located inside the toilet building. The pump is a submersible pump of unknown horsepower. The water quality is fair with a high sulphur content.

Ranger Residence Water System (building #031-002).
This system is served by a well of unknown age with an estimated depth of 120 feet. The piping and jet pump were replaced about 1985. The well supplies only the ranger residence, picnic shelter, and the former park office. The pump house is located just west of the ranger residence.

Potable Water in the Equestrian Campground

Ranger Residence Water System (building #031-022).
This system is served by a well of unknown age and depth.

Superintendent's Residence Water System (Building #031-018).
This system is served by a water well of unknown age and depth. It is a six-inch diameter drilled well with an estimated depth of 150 feet. The water has a high sulphur content. A submersible pump of unknown horsepower pumps the water.

Visitor Center Water System.
This system consists of a well located approximately 100 feet from the northeast corner of the building and is served by a 7.5-horsepower pump.

Equestrian Campground Washhouse Water System (Building #031-028).
This system is served by a well just to the south of the day use horsetrailer parking lot, on the north side of Jacob Fork.

Primitive Campground Water System.
This system is of unknown age and depth.

Existing Electrical System

Rutherford Electric Membership Corporation in Morganton provides electrical power to the park. Underground single phase power lines run along the South Mountain Park Avenue road shoulder to a series of transformers located along this entry road. The line ends at the picnic area toilet building.

Existing Telephone System

AT&T in Morganton provides phone service to the park. The phone line runs underground along the South Mountain Park Avenue road shoulder. A 25-pair line services the visitor center and a 25-pair line services the rest of the park. The visitor center has three voice lines, one fax line, one fire alarm line, and one elevator line. A pay phone is planned for the visitor center in the near future. The maintenance area and former park office have one voice line and one pay phone. There are three phone extensions in the office and shop area, and each ranger residence has its own phone line.

Climate

Average temperature and precipitation data for Morganton, NC is the most local data available through the Southeast Regional Climate Center for 1/1/1933 to 12/31/2005. Average maximum temperatures ranged from 51.6º F in January to 88.6º F in July. Average minimum temperatures ranged from 28.2º F in January to 64.7º F in July. Average Total Precipitation ranged month to month from 3.43 inches (November) to 4.81 inches (March). The average annual rainfall was 49.65 inches. Average annual snowfall was 7.0 inches.

Prevailing wind data is available for Asheville, NC from the National Climatic Data Center located in Asheville, NC. Prevailing winds for Asheville from 1930-1996 were from the North-Northwest with average speeds from six to 10 miles per hour.

Average temperature, precipitation, and prevailing winds are variable across the park due to the mountainous topography creating distinct microclimates on peaks and in valleys and coves.

South Mountains State Park is located in the vicinity of latitude 35° 35' north, longitude 81° 40' west. This latitude reflects a solar azimuth altitude angle (essentially the angle of the sun relative to the horizon) of approximately 33° on the winter solstice (December 21) and approximately 79° on the summer solstice (June 21). On the winter solstice, the sun rises (without correction for topography) approximately 62° east of south and sets at approximately 62° west of south. On the summer solstice, the sun rises (without correction for topography) approximately 117° east of south and sets at approximately 117° west of south. This information is useful for siting buildings and other structures for energy efficiency and solar comfort, both important in designing for sustainability.

A weather station was installed in the vicinity of the South Mountains State Park Visitor Center in January 2007. It measures wind, rainfall, barometric pressure, soil temperature, and evapotranspiration rates.

Installation of new weather station at visitor center, January 2007